

ABSTRACT OF THE DISCLOSURE

5 Axial flow fan propellers are provided with a roughened
portion along the trailing edge of the fan blades on the
pressure side of the blade to minimize tonal acoustic
emissions generated by laminar boundary layer vortex
shedding. The roughened portion may be provided by trip
surfaces formed in the blades, by strips of abrasive
material adhered to the blades along the trailing edges,
respectively, by parallel or cross-hatched serrations in the
blades or by upturned or offset trailing edges of the
10 blades. The height of the roughened portion should be about
equal to the boundary layer thickness of air flowing over
the blade surfaces during operation of the fan. The fan
propellers are particularly advantageous in heat exchanger
applications, such as residential air conditioning system
15 condenser units.

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